



High Speed Propulsion Modeling and Control

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High-Speed Propulsion Modeling and Control

- Overview
- CCE-LIMX Mode Transition Modeling and Control
- Dynamic Modeling of Supersonic Propulsion Systems for Aero-Propulso-Servo-Elasticity Analysis.



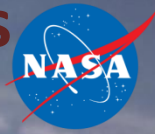
Combined Cycle Engine (CCE) Large Scale Inlet for Mode Transition Experiments (LIMX) Mode Transition Modeling and Control Fundamental Aeronautics – Hypersonic Project

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4th Propulsion Control and Diagnostics (PCD) Workshop
Cleveland OH, December 12, 2013

Dynamic Modeling of Supersonic Propulsion Systems for AeroPropulsoServoElasticity Analysis



**AeroServoElasticity - AeroPropulsoServoElasticity
Fundamental Aeronautics – High Speed Project**



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NASA Aeronautics Program Structure

Aeronautics Research Mission Directorate

2006-2012

Fundamental Aeronautics Program
(FAP)

Aviation Safety
Airspace Systems
⋮

Supersonic
Project ★

Hypersonic
Project ★

Subsonic
Fixed Wing

Subsonic
Rotary Wing



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High Speed



Aeronautical
Sciences

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Dynamic Modeling of Supersonic Propulsion Systems for Aero-Propulso-Servo-Elasticity Analysis Fundamental Aeronautics – Supersonics Project



The goal of APSE (under the High Speed Project) is to assess the integrated dynamic performance of the vehicle. That is the dynamic couplings of the propulsion system with structural dynamics and aerodynamics and how these couplings may influence vehicle performance



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